

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/050548

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E21B43/10 B21D39/08 B21D31/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B B21D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/075339 A1 (ECHOLS RALPH HARVEY ET AL) 24 April 2003 (2003-04-24) paragraph '0041! figures 1,4	1-19
X	US 1 393 620 A (PETER GAVIN) 11 October 1921 (1921-10-11) the whole document	1-11
X	US 3 583 187 A (KONTRANOWSKI EDWARD S) 8 June 1971 (1971-06-08) figures 2-6	1-8
A	US 3 583 200 A (CVIJANOVIC RATKO ET AL) 8 June 1971 (1971-06-08) figures 2,3	9
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

27 July 2004

Date of mailing of the international search report

04/08/2004

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 21,22

Claims 21 and 22 contain references to the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/050548

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2003075339	A1	24-04-2003	EP 1306519 A2	02-05-2003
US 1393620	A	11-10-1921	NONE	
US 3583187	A	08-06-1971	NONE	
US 3583200	A	08-06-1971	DE 1943740 A1 JP 48026592 B	08-07-1971 13-08-1973
WO 02052124	A	04-07-2002	CA 2432637 A1 WO 02052124 A2 GB 2389606 A NO 20032845 A US 2004074640 A1	04-07-2002 04-07-2002 17-12-2003 12-08-2003 22-04-2004
WO 9325799	A	23-12-1993	AU 670948 B2 AU 4324493 A CA 2137560 A1 DE 69306110 D1 DE 69306110 T2 DK 643794 T3 WO 9325799 A1 EP 0643794 A1 JP 7507610 T JP 3441072 B2 NO 944721 A NZ 253124 A OA 10117 A RU 2103482 C1 SG 46560 A1 US 5348095 A	08-08-1996 04-01-1994 23-12-1993 02-01-1997 05-06-1997 05-05-1997 23-12-1993 22-03-1995 24-08-1995 25-08-2003 07-12-1994 27-02-1996 18-12-1996 27-01-1998 20-02-1998 20-09-1994
WO 02059456	A	01-08-2002	CA 2435649 A1 WO 02059456 A1 GB 2388137 A NO 20033340 A	01-08-2002 01-08-2002 05-11-2003 17-09-2003
WO 0026500	A	11-05-2000	US 6454493 B1 AU 751664 B2 AU 1158400 A BR 9914927 A CA 2348559 A1 CN 1325477 T DE 69910819 D1 DE 69910819 T2 DK 1133616 T3 EA 2432 B1 WO 0026500 A1 EP 1133616 A1 ID 28377 A NO 20012103 A NZ 511240 A	24-09-2002 22-08-2002 22-05-2000 10-07-2001 11-05-2000 05-12-2001 02-10-2003 01-07-2004 22-12-2003 25-04-2002 11-05-2000 19-09-2001 04-05-2000 21-06-2001 25-10-2002
WO 03010414	A	06-02-2003	CA 2454070 A1 WO 03010414 A1 GB 2396322 A	06-02-2003 06-02-2003 23-06-2004